5. (Amended) A carbon black producing apparatus according to Claim 1, wherein the shape of the oxygen-containing gas feed port is circular, and the opening diameter (Da) of the oxygen-containing gas feed port and the shortest distance (Dw) between the oxygen-containing gas feed port and the inner wall of the reactor have a relation of Dw<1.5Da.

6. (Amended) A carbon black producing apparatus according to Claim 1, wherein the shape of the oxygen-containing gas feed port is non-circular, and the opening diameter (DL) of the oxygen-containing gas feed port and the shortest distance (Dw) between the oxygen-containing gas feed port and the inner wall of the reactor have a relation of Dw<1.5DL.

7. (Amended) A carbon black producing apparatus according to Claim 1, wherein the distance from the crossing point of the center line of the fuel flow supplied from the fuel feed port and the center line of the oxygen-containing gas flow supplied from the oxygen-containing gas feed port to the end of the oxygen-containing gas feed port is not less than twice the opening diameter of the oxygen-containing gas feed port.

8. (Amended) A method of producing carbon black comprising using a producing apparatus as defined in Claim 1.

10. (Amended) A method of producing carbon black according to Claim 8, wherein the average temperature of the first reaction zone is not lower than 1,600°C.

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11.  (Amended) A method of producing carbon black according to Claim 8, wherein the combustion gas flow temperature in the vicinity of the feedstock hydrocarbon feed port is not lower than 1,600°C.

12.  (Amended) A method of producing carbon black according to Claim 8, wherein the oxygen concentration in the vicinity of the feedstock hydrocarbon feed port is not more than 3%.

15.  (Amended) A method of producing carbon black according to Claim 13, wherein the combustion gas temperature in the vicinity of the feedstock hydrocarbon feed port is not lower than 1,600°C.

16.  (Amended) A method of producing carbon black according to Claim 13, wherein the oxygen concentration in the vicinity of the feedstock hydrocarbon feed port is not more than 3%.

19.  (Amended) A method of producing carbon black according to Claim 17, wherein the reactor wall surface in the first reaction zone is under an oxidizing atmosphere.

20.  (Amended) A method of producing carbon black according to Claim 17, wherein the average temperature of the first reaction zone is not lower than 1,600°C.

21. (Amended) A method of producing carbon black according to Claim 17, wherein the oxygen concentration in the vicinity of the feedstock hydrocarbon feed ports is not more than 3%.

24. (Amended) A furnace combustion apparatus according to Claim 22, wherein the distance from the crossing point of the fuel flow and oxygen-containing gas flow to the end of the fuel feed port is not less than 30 times the opening diameter of the fuel feed port.

25. (Amended) A furnace combustion apparatus according to Claim 22, wherein at least part of the furnace inner wall is made of magnesia- or micromagnesia-based refractory material.

26. (Amended) A furnace combustion method comprising using a furnace combustion apparatus as defined in Claim 22.

29. A furnace combustion method according to Claim 26, wherein the inner wall surface of the combustion furnace is under an oxidizing atmosphere.